

|                          |                        |                     |     |
|--------------------------|------------------------|---------------------|-----|
| <b>Interview Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |     |
|                          | 09/811,366             | RHOADS ET AL.       |     |
|                          | <b>Examiner</b>        | <b>Art Unit</b>     |     |
|                          | Andrew W. Johns        | 2621                | #10 |

All participants (applicant, applicant's representative, PTO personnel):

(1) Andrew W. Johns, examiner.

(3) \_\_\_\_\_

(2) William Conwell, applicant's representative.

(4) \_\_\_\_\_

Date of Interview: 19 October 2004.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1,18,21,30,49 and 50.

Identification of prior art discussed: Gasper et al. '730.

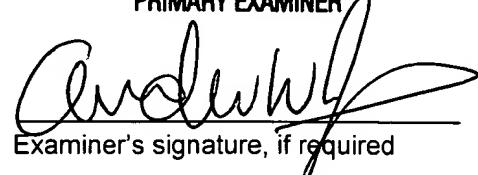
Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

ANDREW W. JOHNS  
PRIMARY EXAMINER



Examiner's signature, if required

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Examiner discussed applicant's arguments with respect to the prior art, and pointed out that Gasper et al. '730 was viewed as "conveying plural bits of digital information" as required by the claims, but agreed that Gasper et al. '730 "does not teach multi-bit binary data encoding" as argued by applicant. Examiner proposed changes to claims 1 and 30 so that the claimed invention recited "encodes multi-bit binary data" so as to overcome prior art rejection. Changes to claims 18, 21, 49 and 50 were suggested so that the language of these dependent claims corresponded to the modified language in the independent claims and to correct an apparent typographical error in the dependency of claim 50 (see attached copy of proposal faxed to applicant's representative). Applicant's repr. reviewed the proposed changes and authorized the entry of the proposal by Examiner's amendment. Applicant's repr. also indicated that additional items needed to be made of record, and that a further IDS would be filed. Examiner agreed to consider the additional items prior preparing the application for allowance, and would contact applicant if the IDS raised any additional issues. Upon final review, applicant noted that the recitation of "the ink" in the final line of claim 5 did not appear to have proper antecedent support, and suggested amending claim 5 to incorporate the language of claim 2 prior to this recitation (similar to the language of claim 7) to provide this support. Applicant's repr. agreed and authorized this change as well.



UNITED STATES PATENT AND TRADEMARK OFFICE

*Attachment to  
Paper #10*

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
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ALEXANDRIA, VA 22313-1450  
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# Fax Cover Sheet

Date: 18 Oct 2004

|  |                                |
|--|--------------------------------|
| To: William Conwell                    | From: Andrew W. Johns          |
| Application/Control Number: 09/811,366 | Art Unit: 2621                 |
| Fax No.: (503) 469-4777                | Phone No.: (703) 305-4788      |
| Voice No.: (503) 469-4800              | Return Fax No.: (703) 872-9306 |
| Re: Attorney Docket No. P0325          | CC:                            |

Urgent     For Review     For Comment     For Reply     Per Your Request

Comments:

Please review the attached proposal and comments and contact examiner to discuss this case.

Number of pages 4 including this page

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P.O. Box 1450  
Alexandria, VA 22313-1450

Art Unit: 2621

Mr. Conwell:

I have received and reviewed the response filed 23 April 2004. With respect to claims 1 and 30, I disagree that the claims distinguish over the prior art. Specifically, the unique signatures of Gasper et al. '730 do convey information, specifically the identity of the unique document to which they are applied. In the situation described by Gasper et al. '730, in which more than two documents exist, this information would require plural bits to represent it digitally in the computers that would read the document in the Gasper et al. '730 system. Therefore, it seems that Gasper et al. '730 can be reasonably interpreted as "conveying plural bits of digital information" as required by claims 1 and 30.

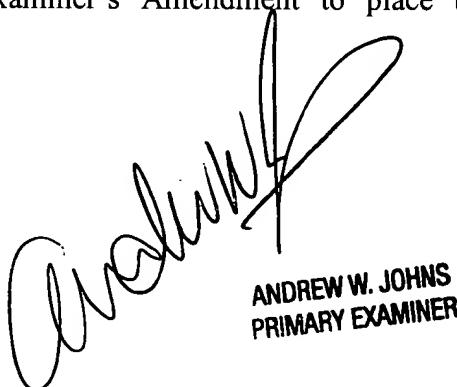
However, upon reading your arguments, and in particular, the statement on page 15 of your response, at line 5 that Gasper et al. '730 "does not teach multi-bit binary data encoding," it would seem that a clarification of the claim language might better distinguish the claimed invention from the prior art. Specifically, I agree that the pattern of Gasper et al. '730 does not encode multi-bit binary data, and would suggest that amending claims 1 and 30 to change the language "...yet conveys plural bits of digital information," to read --yet encodes multi-bit binary data-- would overcome the outstanding rejection and place these claims in condition for allowance.

In addition, a number of the dependent claims would also need to be modified to include so that they have proper antecedent support, and it is believed that newly added claim 50 was intended to be dependent from claim 30, rather than claim 1.

Finally, I would propose amending the specification (as presented in the substitute specification filed 23 April 2004) to consolidate the Brief Descriptions of the Drawings into a single listing, positioned between the Summary of the Invention and the Detailed Description, so as to better conform to conventional practice.

Therefore, I would propose amending the application as shown on the following pages. Please review these proposed changes and contact me at (703) 305-4788 to discuss this case. With your authorization, these changes would be entered by Examiner's Amendment to place the application in condition for allowance.

Andrew Johns  
Primary Examiner  
Art Unit 2621



ANDREW W. JOHNS  
PRIMARY EXAMINER

In the specification:

On page 6, prior to line 25, insert the following:

**--Brief Description of the Drawings**

Figure 1 shows a prior art watermarking system.

Figure 2 is an overall system diagram of the present invention.

Figure 3 illustrates the correspondence between the luminance values in a watermark tile and areas in the output image.

Figure 4 is a flow diagram of the present invention.

Figure 5 shows the lines in an output image.

Figure 6 shows an alternative arrangement of lines in an output image.

Figure 7 is an overall diagram of an output image.

Figure 8 is a block diagram illustrating a printer architecture that reads digital watermarks to obtain printer control information.--

On page 12, cancel lines 1-10.

On page 19, cancel lines 14-15.

On page 26, cancel lines 21-23.

In the Claims:

1. (Amended) A substrate to which final user printing can be later applied to yield a final printed object, characterized in that the substrate has been processed prior to final user printing to yield a steganographic digital watermark pattern thereon that does not impair subsequent use of the substrate, yet ~~conveys plural bits of digital information encodes multi-bit binary data~~, the presence of said information multi-bit binary data not being apparent to a human observer of the substrate, said steganographic pattern being detectable by visible-light scanning of the substrate to yield data from which the plural bit information multi-bit binary data can be recovered.

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18. (Amended) The substrate of claim 1 in which said ~~plural bits of digital information~~ multi-bit binary data comprise an identifier, said identifier serving to convey information indicative of an electronic address.

21. (Amended) The substrate of claim 1 in which the ~~plural bits of digital information~~ multi-bit binary data comprise serialization information, permitting the printed object to be uniquely identified from other, seemingly identical, printed objects.

30. (Amended) A method of processing a blank substrate prior to final printing by an end-user, the method comprising forming a steganographic digital watermark pattern on the substrate that does not impair subsequent use of the substrate, yet ~~conveys plural bits of digital information encodes multi-bit binary data~~, the presence of said ~~information~~ multi-bit binary data not being apparent to a human observer of the substrate, said steganographic pattern being detectable by visible-light scanning of the substrate to yield data from which the ~~plural bit information~~ multi-bit binary data can be recovered.

49. (Amended) The substrate of claim 1 wherein said ~~plural bits of digital information~~ multi-bit binary data correspond to said pattern in accordance with an algorithmic transformation.

50. (Amended) The method of claim [[1]] 30 wherein said ~~plural bits of digital information~~ multi-bit binary data correspond to said pattern in accordance with an algorithmic transformation.